

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.(Original) A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the step of contacting a cellular sample potentially comprising a dopaminergic neuron and/or a progenitor cell thereof with a polynucleotide that hybridizes under stringent conditions to a transcript of a gene that consists of a nucleotide sequence of any one of (1) to (6):

(1) the nucleotide sequence of SEQ ID NO: 13;

(2) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 14;

(3) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 13;

(4) the nucleotide sequence of SEQ ID NO: 15 or 17;

(5) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 16 or 18; and

(6) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 15 or 17.

2.(Original) The method of claim 1, wherein the polynucleotide comprises at least 15 nucleotides.

3.(Original) A reagent for distinguishing a dopaminergic neuron and/or a progenitor cell thereof, wherein the reagent comprises, as an active ingredient, a polynucleotide that hybridizes under stringent conditions to a transcript of a gene that consists of a nucleotide sequence of any one of (1) to (6):

(1) the nucleotide sequence of SEQ ID NO: 13;

(2) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 14;

(3) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 13;

(4) the nucleotide sequence of SEQ ID NO: 15 or 17;

(5) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 16 or 18; and

(6) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 15 or 17.

4. (Original) The reagent of claim 3, wherein the polynucleotide comprises at least 15 nucleotides.

5-8. (Cancelled)

9. (Original) A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the steps of:

(a) contacting a cellular sample potentially comprising a dopaminergic neuron and/or a progenitor cell thereof with a polynucleotide that hybridizes under stringent conditions to a transcript of a gene that consists of a nucleotide sequence from any one of (a-1) to (a-6):

(a-1) the nucleotide sequence of SEQ ID NO: 13;

(a-2) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 14;

(a-3) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 13;

(a-4) the nucleotide sequence of SEQ ID NO: 15 or 17;

(a-5) the nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 16 or 18; and

(a-6) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 15 or 17; and

(b) contacting a cellular sample potentially comprising a dopaminergic neuron and/or a progenitor cell thereof with a polynucleotide that hybridizes under stringent conditions to transcripts of one or more genes selected from the group consisting of Lmx1b, Nurr1, En1, Ptx3, and TH, or with an antibody that binds to translation products of said selected genes.

10. The method of claim 9, which further comprises the step of:

(c) contacting a cellular sample potentially comprising the dopaminergic neuron and/or the progenitor cell thereof with a polynucleotide that hybridizes under stringent conditions to transcripts of either or both of the genes selected from DAT and ADH2 or with an antibody that binds to a translation product of a said selected gene.

11. (Original) The method of claim 9, wherein the gene selected in step (b) is one or more of Lmx1b, Nurr1, or En1.

12. (Original) A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the steps of:

(a) contacting a cellular sample potentially comprising a dopaminergic neuron and/or a progenitor cell thereof with a polynucleotide that hybridizes under stringent conditions to a transcript of a gene that consists of a nucleotide sequence from any one of (a-1) to (a-6):

(a-1) the nucleotide sequence of SEQ ID NO: 13;

(a-2) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence of SEQ ID NO: 14;

(a-3) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 13;

(a-4) the nucleotide sequence of SEQ ID NO: 15 or 17;

(a-5) a nucleotide sequence encoding a polypeptide consisting of the amino acid sequence (human) of SEQ ID NO: 16 or 18; and

(a-6) a nucleotide sequence that hybridizes under stringent conditions to a gene consisting of the nucleotide sequence of SEQ ID NO: 15 or 17; and

(b) contacting a cellular sample potentially comprising a dopaminergic neuron and/or a progenitor cell thereof with a polynucleotide that hybridizes under stringent conditions to transcripts of either or both of the genes selected from DAT and ADH2, or with an antibody that binds to translation products of said selected genes.

13. (Original) The method of any one of claims 9 to 12, wherein the polynucleotide is a nucleotide sequence comprising at least 15 consecutive nucleotides.

14. (Original) A kit for distinguishing a dopaminergic neuron and/or a progenitor cell thereof, wherein the kit comprises: the reagent of claim 3 or 4; and a polynucleotide that hybridizes under stringent conditions to transcripts of one or more genes selected from the group consisting of Lmx1b, Nurr1, En1, Ptx3, TH, DAT, and ADH2.

15. (Original) A kit for distinguishing a dopaminergic neuron and/or a progenitor cell thereof, wherein the kit comprises: the reagent of claim 3 or 4; and an antibody that binds to translation products of one or more genes selected from the group consisting of Lmx1b, Nurr1, En1, Ptx3, TH, DAT, and ADH2.

16-26. (Cancelled)